AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application.

1.-17. (canceled)

18. (new) A method of introducing a specific mutation into a selected DNA molecule for mutagenesis, wherein the DNA molecule is a double-stranded circular DNA molecule, comprising the steps of:

annealing a first mutagenic primer and a second mutagenic primer to the DNA molecule, wherein the first mutagenic primer comprises a region that is complementary to the second mutagenic primer, and

synthesizing by means of a linear cyclic amplification reaction a first mutagenized DNA strand comprising the first mutagenic primer, and a second mutagenized DNA strand comprising the second mutagenic primer, wherein the first mutagenized DNA strand and the second mutagenized DNA strand may form a double-stranded mutagenized circular DNA intermediate.

19. (new) The method according to Claim 18, wherein the linear cyclic amplification reaction is catalyzed by Pfu DNA polymerase.

20. (new) The method according to Claim 18, wherein the first and second mutagenic primers are 5' phosphorylated.

21. (new) The method according to Claim 18, wherein the linear cyclic amplification reaction is repeated for less than 20 cycles.

22. (new) The method according to Claim 18, wherein the first and second mutagenic primers are completely complementary to each other.

23. (new) The method according to Claim 18, the method further comprising the steps,

annealing the first mutagenized DNA strand and the second mutagenized DNA strand so as to form a double-stranded mutagenized circular DNA intermediate, and

transforming a host cell with the double-stranded mutagenized circular DNA intermediate.

24. (new) A method of introducing a specific mutation into a selected DNA molecule for mutagenesis, wherein the DNA molecule is a double-stranded circular DNA molecule, comprising the steps of:

annealing a first mutagenic primer and a second mutagenic primer to the DNA molecule, wherein the first mutagenic primer comprises a region that is complementary to the second mutagenic primer, and

synthesizing by means of a linear cyclic amplification reaction a first mutagenized DNA strand comprising the first mutagenic primer, and a second mutagenized DNA strand comprising the second mutagenic primer, wherein the first mutagenized DNA strand and the second mutagenized DNA strand may form a double-stranded mutagenized circular DNA intermediate, and

digesting the DNA molecule for mutagenesis, wherein the digestion occurs *in vivo*.